

R E M A R K S

The Office Action mailed June 17, 2004 has been reviewed and carefully considered. Claims 1-15 remain pending. Reconsideration of the above-identified application in view of the following remarks is respectfully requested.

Claims 1-11 stand rejected under 35 U.S.C. 103(a) as unpatentable over U.S. Patent No. 6,341,040 to Tai et al. ("Tai").

Claim 1 recites:

coupled to the interleaving means, an output terminal without forward connection, to which output of at least an additional channel for an additional, interleaved optical signal is to be coupled, for future connection of the terminal to an additional demultiplexer in the event the system is expanded so as to provide said forward connection.

Tai, by contrast, fails to disclose or suggest a system that features at least one multiplexer/demultiplexer pair and the "output terminal without forward connection" described in claim 1 of the present invention.

Tai discloses a number of alternative configurations of an optical system that demultiplexes optical signals to optical devices and multiplexes optical signals from the devices, those multiplexers and demultiplexers being sandwiched between respective interleavers and de-interleavers.

One configuration (FIG. 10) for a Tai interleaver 1020 interleaves an incoming optical signal onto two optical fibers 550, 597, each of the fibers then feeding a respective demultiplexer 1030, 1035. Although FIG. 10 depicts the interleaver 1020 as

having merely two filters 530, 580, which constitute a single stage of interleaving, Tai states that, alternatively, the interleaver 1020 may be configured with multiple stages of interleaving (col. 6, lines 56-64). Thus, for example, the package 557 housing the interleaver 1020 could be designed to instead contain the three filter pairs 810, 820, 830, thereby affording two stages of interleaving.

Both of the Tai output fibers 550, 597 are necessarily connected to their respective demultiplexers 1030, 1035, because, otherwise, half of the input signal channels, e.g., the odd channels, would be discarded.

Likewise, with two stages of de-interleaving, all of the output fibers 840, 850, 860, 870 must be connected to respective demultiplexers. Otherwise, input information would be discarded.

Referring to FIG. 6 of the present application, it is seen that, by contrast, none of the input signal channels $\lambda_1 \lambda_4 \lambda_7 \lambda_{10}$ of the present invention are discarded.

Perhaps the Office Action envisions merely a single stage of interleaving, but that some of output optical fibers 840, 850, 860, 870 jut into the deinterleaver 80 disconnected to any filter 200 or demultiplexer 1030, 1035. This configuration would introduce, upon upgrade to activate the disconnected fiber(s), the problem of properly aligning the fiber seat 245 with the GRIN lens 240 or of properly seating the fiber 250 into the fiber seat 245.

Item 2 of the Office Action speculates that the invention as recited in claim 1 amounts to “mere duplication of the essential working parts of a device,” but, as demonstrated above, one cannot merely duplicate working parts of Tai to arrive at the

present invention. The Examiner is using impermissible hindsight gained from reading the present disclosure.

As set forth above, it would not have been obvious to modify Tai in a way that meets the limitations of the present invention as recited in claim 1.

Tai merely mentions alternative embodiments, but makes no disclosure or suggestion of coupling to the interleaver “an output terminal without forward connection, to which output of at least an additional channel for an additional, interleaved optical signal is to be coupled, for future connection of the terminal to an additional demultiplexer in the event the system is expanded so as to provide said forward connection.”

In particular Tai fails to disclose or suggest:

coupled to the interleaving means, an output terminal without forward connection, to which output of at least an additional channel for an additional, interleaved optical signal is to be coupled, for future connection of the terminal to an additional demultiplexer in the event the system is expanded so as to provide said forward connection.
which language explicitly appears in claim 1 of the present invention.

Accordingly, Tai fails to anticipate or render obvious the invention as recited in claim 1.

Reconsideration and withdrawal of the rejection is respectfully requested.

Claim 2 is similar to claim 1 and features the same above-quoted language.

Claim 2 is therefore likewise deemed to be patentable over Tai.

Claim 3 is a process claim corresponding to the manufacture claims 1 and 2, and likewise features the “output terminal without forward connection” in addition to at least one multiplexer/demultiplexer pair. Claim 3 is thus also patentable over Tai.

As to the other rejected claims, each depends from a base claim and is deemed to be patentable at least due to its dependency.

Claims 12-15 are completely ignored by the Office Action, or their allowability is not mentioned. In any event, claims 12-15 are deemed to be patentable at least due to their dependency.

In view of the foregoing amendments and remarks, it is believed that this application is now in condition for allowance. The Examiner is invited to contact the undersigned in the event of any perceived outstanding issues so that passage of the case to issue can be effected without the need for a further Office Action.

Amendment
Serial No. 09/748,430

Docket No. 5000-1-182.

In the event that any additional fee is required to continue the prosecution
of this Application as requested, please charge such fee to Deposit Account No. 502-470.

Respectfully submitted,

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